

ABSTRACT

A percussion drill bit for drilling into a subterranean earth formation. The drill bit has a central longitudinal axis and is operable by applying axial percussive motion along the axis and rotary motion about the axis. The drill bit is provided with a plurality of blades protruding from the drill bit and, a plurality of flow channels stretching along the drill bit in a substantially radial direction whereby the successive flow channels are formed between two adjacent blades. Shear cutters are provided in a row on or close to the leading edge of at least one of the blades with respect to the direction of rotary motion trailingly adjacent to the flow channel that is associated with it. A fluid may be run through the flow channel to remove cutting debris accumulating in front of the row of shear cutters. In addition to these shear cutters, axial cutters are located, with respect to the direction of rotary motion, in a trailing position with respect to the row of shear cutters and its associated flow channel.